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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,166

02/09/2007

Juan Ignacio Valdes Edwards

15807.0005USWO

8919

23552 7590 07/13/2010  
MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER

MCCLAIN-COLEMAN, TYNESHA L.

ART UNIT

PAPER NUMBER

1784

MAIL DATE

DELIVERY MODE

07/13/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## DETAILED ACTION

### *Response to Arguments*

1. The request for reconsideration filed on June 30, 2010 has been considered but does NOT place the application in condition for allowance because applicant's arguments do not overcome the rejections of record.
2. Applicant argues that in contrast to Applicants' claims, *Mitsuda* requires a freezing medium. However, *Mitsuda* discloses forming an ice capsule around the food in order to chill it. The ice-capsule may be formed in various embodiments (column 2, lines 63-66). The fish may be chilled by spraying the fish with the freezing medium (column 3, lines 3-5), immersing the fish into the freezing medium (column 3, lines 8-12), or blown with chilling medium such as gas from liquid nitrogen (column 3, lines 19-22). In one example, the step of forming an ice-capsule is performed by subjecting the fish to blowing nitrogen gas in order to obtain the temperature of -6°C in the center of the yellowtail (column 6, lines 56-59). Also, as noted in the previous office action, the chilling step disclosed by *Mitsuda* was used to keep the fish moderately cold, which is identical to step b of the previous claims (7-25-2008) and has been deleted from the amended claims (10-9-2009). Further, the method claimed by the applicant includes the transitional term "comprises" in claim 1, which is interpreted as being inclusive or open-ended and does not exclude additional, unrecited method steps (see MPEP 2111.03).
3. Applicant argues *Mitsuda* does not restrict the amount of time to perform the IQF or control the freezing step to a certain temperature in the center of the

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meat product. However, *Mitsuda* discloses a step of quick chilling (IQF) is done in the range of 7 minutes to 10 minutes so that the temperature of the center of the food becomes about - 6 °C or lower, which falls within the range claimed by the applicant (letter b) (column 4, lines 10-14). *Mitsuda* also teaches the food can be frozen, through the step of quick chilling, in such a manner that it is passed through the maximum ice crystal formation temperature zone while having as much as possible the free water and bound water in the spaces unfrozen. Such detrimental effects as mechanical damage or cell rupture can be prevented (column 4, lines 20-26). Following quick chilling, the temperature of the food environment is changed to - 25 °C to - 35 °C and maintained at that temperature for 40 to 90 minutes, so that the food reaches the equalized temperature of - 18 °C to - 25 °C, which overlaps the ranges claimed by the applicant (letter e) (column 4, lines 49-56).

4. Applicant also argues *Mitsuda* does disclose packaging and high vacuum packing required by the claims. *Mitsuda* does teach packaging the food in polyethylene bags (column 8, lines 9-11). However, *Mitsuda* does not disclose the fish or meat pieces are packaged in the claimed special packaging (letter c) and does not disclose the claimed high vacuum packaging step (letter d). In the previous office action, *Mayr* is relied upon to teach vacuum packaging in oxygen impermeable vacuum bagging film (polyamide-polyethylene [Packartis]) (letter c) (page 3, Packaging and Storage). *Mayr* discloses that when O<sub>2</sub>-impermeable packaging is used, the growth of gram-positive bacteria, mostly lactic acid bacteria, is favored because of increased CO<sub>2</sub> levels and a lowered oxidation-

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reduction potential. The polyamide-polyethylene packaging material disclosed by *Mayr* possesses high gas barrier properties (such as oxygen and carbon dioxide), has low water vapor transmission rates, is durable over a wide range of temperatures, resistant to odor permeance, and has the ability to endure vacuum sealing temperatures (letter c). As a result, it is expected that the polyamide-polyethylene packaging material disclosed by *Mayr* meets the claimed requirements of high impermeability to gases, water vapor, and many diverse types of odorants. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the packaging material used by *Mitsuda* with the packaging and vacuum system taught by *Mayr* in order to extend the typical shelf life of food and provide anaerobic conditions in within the package. This system minimizes the growth and multiplication of microorganisms, thus allowing the freshness of the meat or fish product to be preserved longer.

5. Applicant argues the meat in *Mayr* is unfrozen before vacuum packaging, and the meat samples in *Mayr* were only tested after 11 days of storage.

However, *Mayr* is relied upon for the teachings of polyamide-polyethylene packaging material as well as vacuum packaging. *Mitsuda* successfully teaches packaging a frozen meat product, and storing the frozen product in a freezer for one year (column 9, lines 52-56). Further, it is well known in the art to vacuum package food products during any stage of processing, including dried food products, fresh food products, and frozen food products. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention

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was made to modify the packaging material used by *Mitsuda* with the packaging and vacuum system taught by *Mayr* since *Mitsuda* and *Mayr* similarly teach packaging and freezing meat products.

6. Applicant also argues *Weerawardena* does not cure the deficiencies of the combination of *Mitsuda* and *Mayr*, and the process disclosed by *Weerawardena* differs from the process claimed by the applicant. However, *Weerawardena* is relied upon to teach processing and packaging the meat in a single facility.

*Mitsuda* in view of *Mayr* does not disclose that the process is carried out in an industrial facility. *Weerawardena* successfully teaches processing and packaging meat products in one facility. Since *Weerawardena* and *Mitsuda* in view of *Mayr* similarly teach vacuum packaging frozen meat products, and it is well known in the art to freeze food products and vacuum package them within the same facility, it would have been obvious to process and package the meat products disclosed by *Mitsuda* in view of *Mayr* in a single facility as disclosed by *Weerawardena* with the expectation of successfully packaging frozen meat products.

/TYNESHA L MCCLAIN-COLEMAN/  
Examiner, Art Unit 1784

/Jennifer C. McNeil/  
Supervisory Patent Examiner, Art Unit 1784